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To: DES SBCC
Subject: Written comment on WSEC-R Heat Pumps Issue

External Email

I spoke orally at today's hearing, but wish to augment that testimony with respect to one issue: **the adequacy of the electric utility system to support a conversion of new construction to heat pump technology.**

First and foremost, these code provisions apply to NEW construction. While there are a few infill homes built, and these will occasionally require an upgrade of a distribution transformer in a local area, the vast majority of new construction is in developments that involve extensions of utility distribution systems to new subdivisions. The new electric distribution system extensions will be built to appropriate capacity to serve the homes that are served. If the homes are all-electric, existing standards specify the larger distribution components that are required. Every electric utility uses a "distribution sizing manual" that includes knowing how the home will be heated.

Second, because of the improved thermal efficiency of new homes, the capacity required to serve new homes will be LOWER, not higher, than existing distribution system components. The 2018 code, which took effect in 2021, results in all-electric heat pump homes to be the lower-cost choice for nearly all new homes. Only those over about 2,400 square feet would see a (very slightly) lower utility bill with gas heat. That is simply because the monthly fixed charge for gas service is fairly high, and having dual-utility service must pay the infrastructure costs of BOTH electric AND gas distribution systems.

Third, the growth in electricity demand from these new homes will be gradual -- new homes are built gradually over time. The electric utility industry has time to adapt to a shift of load over future decades.

Fourth, the vast majority of new single-family homes today, even in Western Washington, are being built with air conditioning. A heat pump is simply an air conditioner running in reverse (heating the inside, exhausting cool outside). Therefore the electric system capacity to support that higher load needs to be provided anyway in order to support the air conditioners; using

heat pumps for space heating simply allows year-round use of that infrastructure that will be installed anyway.

Bottom line: the electric grid is adequate today, and improvements can and will be made as required, to support new loads, including heat pumps and heat pump water heaters. The people who spoke to this issue were raising a red herring. And the amendments proposed DO NOT PRECLUDE the installation of natural gas or propane supplemental heating in addition to heat pumps. People who think that "heat pumps are not enough" will simply pay a few hundred dollars more to have a heat pump (instead of an air conditioner), and then ALSO install the fossil fuel heating system they prefer.

I am deeply offended by the speakers to drew analogies to California electric reliability issues. The infrequent power outages in California due to wildfires have cut off not only people's ability to heat and cool their homes with electricity, but also disrupt electric service to their natural gas furnaces, which depend on electricity. California's power supply has grown rapidly, along with it's population. While Texas, fossil-fuel dependent, lost power service for 3-4 days during the winter storm in 2021, even the most extreme conditions in California led to only 1% of California customers being curtailed in August, 2021, and those curtailments lasted less than one hour. The Summer, 2022, extreme peaks in California were managed without any forced curtailments at all. Simply put, the "*California is a problem*" testimony is inaccurate and deceptive.

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